AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A method for creating a novel viewpoint image from a plurality of images, the method comprising ~~the steps of~~:

~~a. Simultaneously and continuously~~ simultaneously acquiring sets of images from a plurality of cameras; ~~and~~

~~b. Using~~ using predetermined background based correspondence fields to detect novel objects; ~~and~~

~~c. Assigning~~ assigning the image representations for these objects likely new correspondences; and

~~d. Testing these likely new correspondences and further improving upon them in a refinement step; and~~

~~e. Using~~ using the resulting correspondences to [[,]] construct a novel viewpoint image by warping at least one of the images.[[.]]

wherein the novel viewpoint image corresponds to a view from a location different than a camera location.

2. (Cancelled).

3. (Original) The method in claim 1 wherein ~~a. The~~ assignment of image representation likely new correspondences is random.

4. (Currently Amended) The method in claim 1, further comprising ~~wherein a. There is no testing step or further improvement~~ testing the likely new correspondences and refining the likely new correspondences based on a result of the testing.

5. (Currently Amended) The method in claim 1 wherein[[: a.]] ~~Parts~~ parts of the scene that become visible in the novel viewpoint image for which no data are present in the image being warped because of occlusion in the said image being warped are provided by some other image from yet another viewpoint for which appropriate correspondences exist.

6. (New) A method for efficiently generating a novel viewpoint image of a scene, the method comprising:

acquiring a pair of background images of the scene;

generating a background correspondence field based on the background images;

acquiring a pair of real-time images of the scene;

detecting movable objects in the real-time images based at least in part on the background correspondence field;

generating new correspondence data based at least in part on the movable objects; and

warping at least one of the real-time images based at least in part on the new correspondence data in order to create the novel viewpoint image.

7. (New) The method of claim 6, wherein the detecting step further comprises:

warping a first of the real-time image pair into correspondence with a second of the real-time image pair;

differencing the warped first real-time image and the second real-time image; and

determining that difference values above a threshold correspond to the movable objects.

8. (New) The method of claim 6, wherein the generating new correspondence data step further comprises:

spatially grouping the detected movable objects;

determining a distance between each spatial group and the background; and

generating the new correspondence data based at least in part on the distance.

9. (New) The method of claim 6, further comprising integrating the new correspondence data into the background correspondence field.

10. (New) The method of claim 9, further comprising repeating the steps of acquiring a pair of real-time images, detecting movable objects, generating new correspondence data, and integrating the new correspondence data in order to refine the background correspondence field.

11. (New) The method of claim 10, wherein the repeating step continues until a difference between the new correspondence data and the background correspondence field is below a threshold.

12. (New) The method of claim 10, wherein the repeating step continues until a time limit expires.

13. (New) A system for efficiently generating a novel viewpoint image of a scene, the system comprising:

a plurality of cameras configured to capture at least partially overlapping images of the scene; and

a processor configured to:

generate a background correspondence field based on background images captured by the cameras;

detect new objects in subsequent images captured by the cameras based at least in part on the background correspondence field;

generate new correspondence data based at least in part on a result of the detecting step; and

warp at least one of the subsequent images based at least in part on the new correspondence data to create the novel viewpoint image.

14. (New) The system of claim 13, wherein the processor is configured to detect the new objects by:

warping a first of the subsequent images captured by a first camera into correspondence with a second of the subsequent images captured by a second camera;

computing a difference between elements of the first image and corresponding elements of the second image; and

determining that elements associated with difference values above a threshold correspond to new objects.

15. (New) The system of claim 13, wherein the processor is configured to generate new correspondence data by:

spatially grouping the new objects;

determining a distance between each new object spatial group and the background; and

generating the new correspondence data based at least in part on the distance.

16. (New) The system of claim 13, wherein the cameras are configured to continuously capture images and the processor is configured to continuously generate novel viewpoint images based on the continuously captured images.

17. (New) The system of claim 16, further comprising an output device configured to output a video signal comprising the continuously generated novel viewpoint images.